MULTIMEDIA UNIVERSITY ®

STUDENT ID NO

MULTIMEDIA UNIVERSITY

FINAL EXAMINATION

TRIMESTER 3, 2022/2023 (Term 2230)

PCA0150 – COMPUTER APPLICATIONS

(Foundation in Information Technology)

5 OCTOBER 2023
9.00 a.m – 11.00 a.m
(2 Hours)

INSTRUCTIONS TO STUDENT

1. This question paper consists of **THREE (3)** pages (excluding the cover page).
2. Answer **ALL** questions.
3. Write your answers in the Answer Booklet provided.

Instructions: Answer **ALL** questions. Write your answers in the Answer Booklet.

QUESTION 1 [10 Marks]

a. List **TWO (2)** advantages and **TWO (2)** disadvantages of SSDs over hard disks.
(2 marks)

b. In addition to USB, briefly describe another **TWO (2)** types of interfaces for use in personal computers for connecting hard disk drives.
(2 marks)

c. The network you have in your home differs greatly in terms of its architecture from the one on your campus. Discuss **FOUR (4)** characteristics to differentiate the architecture of these two networks.
(4 marks)

d. Compare fibre-optic cabling and twisted-pair cabling in terms of
i. Speed of data transmission
ii. Cost
(2 marks)

QUESTION 2 [10 Marks]

a. Why multi-core processor is better than single-core processor? Give **THREE (3)** reasons.
(3 marks)

b. Briefly describe how instructions are processed by the processor. Make sure to include the function of the control unit and arithmetic-logic unit.
(2 marks)

c. During system development, members of the project team gather data and information. What is the difference between interview session and joint application design (JAD) session techniques of data gathering?
(3 marks)

d. List **FOUR (4)** tests used by the system analysts to evaluate feasibility of a project in measuring how suitable the development of a system will be to the organization.
(2 marks)

Continued...

QUESTION 3 [10 Marks]

a. What is booting process? How *cold boot* is different from *warm boot*?

(3 marks)

b. Sasha requires two different operating systems on her computer. Advise her on **TWO (2)** options for the operating systems' installation techniques so that she can run both operating systems successfully.

(3 marks)

c. LifeWell is a large private hospital offering traditional hospital services as well as online medical consulting and information services. It also conducts medical research and studies.

i. LifeWell's custom software recently received an upgrade from a mostly menu-driven interface to a fully graphical user interface (GUI). List **TWO (2)** advantages of GUI-based software, especially in a hospital.

(2 marks)

ii. LifeWell uses both customised software and packaged software readily available in the market. Describe **TWO (2)** business operations in LifeWell that can be fulfilled by customised software, and **TWO (2)** by packaged software.

(2 marks)

QUESTION 4 [10 Marks]

a. In protecting our computer system, the most secured authentication approach used is biometric authentication. What is biometric? Give **TWO (2)** examples of biometric devices that are often used to provide access to restricted locations.

(2 marks)

b. The most publicized computer crime involves unauthorized access, in which an intruder gains entry to a supposedly secured computer system through entering illegal passwords. Explain briefly **THREE (3)** techniques used to obtain the passwords.

(3 marks)

c. Keaton is a new database administrator at Zod International College. He was asked to create a student database for the college. During the pilot testing of the database system, the admission department clerk named Kara accidentally entered wrong data in credit hours fees. She entered RM7SS.OI instead of RM733.01. However, the system did not display any error message.

i. Based on the situation, explain what is data validation?

(2 marks)

Continued...

ii. Name and describe the type of validity check that is not being carried out for the problem?

(3 marks)

QUESTION 5 [10 marks]

a. Briefly discuss the function of a bar code reader and bar codes.

(2 marks)

b. Give a brief explanation of how each of the following factors affects the clarity and quality of images displayed on computer monitors.
   i. Refresh rate
   ii. Color depth

(2 marks)

c. Riri Williams is a Zumba training instructor at IronHeartSlim fitness centre and just recently bought a new 5G smartphone. She wants to download some music files to be played during the training session.

   i. Describe to Riri **TWO (2)** types of audios downloading technologies and give one example of file format for each type.

(2 marks)

   ii. Based on your description in question (i), explain to her what Digital Rights Management (DRM) technology is.

(2 marks)

d. Name **TWO (2)** multimedia elements that can be used to effectively develop multimedia applications. Your answer should briefly describe each element.

(2 marks)

End of Paper